

Introduction to Drafting and Design

Career Cluster	Architecture & Construction
Course Code	21102
Prerequisite(s)	Algebra I and Geometry Recommended
Credit	.5
Program of Study and Sequence	Introduction to Drafting and Design is an introductory course in the Architectural Drafting, Cabinetry, and Residential Construction Pathways
Student Organization	SkillsUSA
Coordinating Work-Based Learning	Tours, guest speakers, job shadowing
Industry Certifications	This course provides instruction toward attainment of ADDA Apprentice Drafting certification
Dual Credit or Dual Enrollment	TBD
Teacher Certification	Architecture & Construction Cluster Endorsement; Design & Pre-Construction Pathway Endorsement; Manufacturing Cluster Endorsement; STEM Cluster Endorsement; Engineering & Robotics Pathway Endorsement; Drafting Endorsement; 7-12 Technology Education Endorsement
Resources	

Course Description:

People with careers in design and pre-construction create our future. They turn a concept into a set of plans whether for a component, a system, or a building. Their plans guide other construction or manufacturing professionals as they continue the building process. This course will expose students to the American Design Drafting Association (ADDA) Apprentice standards in both mechanical and architectural drafting. The desire for this course is for the students to receive industry based training at the basic level before taking either the Mechanical or Architectural drafting courses. It is highly recommend that students have taken Algebra I and Geometry before taking this course.

Program of Study Application: Introduction to Drafting and Design is an introductory course in the Architectural Drafting and Design/Pre-Construction Pathways. This course follows foundational CTE courses, and is designed to prepare individuals to participate successfully in pathway courses in the Design/Pre-Construction, Construction, or Maintenance/Operations pathways.

Course Standards**Indicator # IDD 1 Examine basic drafting terminology and equipment.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
One Recognize	IDD 1.1 Recognize basic drafting terms and abbreviations.	ADDA Apprentice Drafting Competencies: Mechanical #1
Two Differentiate	IDD 1.2 Differentiate basic drafting tools and their uses.	ADDA Apprentice Drafting Competencies: Mechanical #2, Architecture #2

Notes:**Indicator # IDD 2 Apply basic math skills to design work.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Two Apply	IDD 2.1 Apply algebraic and trigonometric formulas used in drafting and design.	ADDA Apprentice Drafting Competencies: Mechanical #13, Architecture #5 Reinforces SD Common Core math standard 8.F.5. Analyze functions using different representations
Two Understand	IDD 2.2 Understand the various drawing scales used in drafting.	

Notes:

Indicator # IDD 3 Examine basic drafting fundamental and technical skills

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Three Integrate	IDD 3.1 Integrate symbols, lettering and Geometric shapes used on technical drawings.	
One Illustrate	IDD 3.2 Illustrate line types recommended by American National Standards Institute (ANSI).	
One Define	IDD 3.3 Define dimensioning styles and techniques on metric and imperial drawings.	

Notes:**Indicator # IDD 4 Apply drawing techniques to produce various technical plans.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
Four Create	IDD 4.1 Create orthographic projections	
Four Create	IDD 4.2 Create isometric and pictorial drawings.	May include geometric construction to align with state math standards

Notes:

Indicator # IDD 5 Implement computer aided software into design work.

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
One Identify	IDD 5.1 Identify CAD skills and applications of technical design.	
Two Apply	IDD 5.2 Apply CAD defaults and preferences to set up a drawing.	
Four Generate	IDD 5.3 Generate drawings and projections using CAD software.	

Notes:**Indicator # IDD 6 Explore career-ready practices.**

<i>Webb Level</i>	<i>Sub-indicator</i>	<i>Integrated Content</i>
One Understand	IDD 6.1 Understand professional drafting practices in the workplace and communication skills.	
Two Compare	IDD 6.2 Compare career possibilities in the drafting industry.	

Notes: